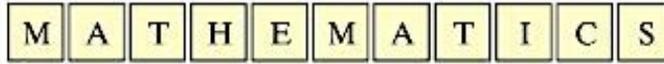




Problem Solving with Probability

- 1) You select a card at random from those below. Without replacing the card, you select a second card at random. Without replacing either of the cards you have selected, you select a third card at random. What is the probability that you have selected the cards T, H, and E in that order?



- 2) Mr. Jaffe randomly chooses one of five toll booths when entering a toll road on his drive to work. What is the probability that he will select the middle toll booth on both Monday and Tuesday?



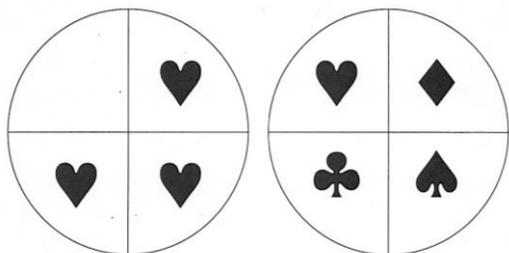
- 3) A farmer buys individual letters to make a sign saying NO TRESPASSING. One the way home, three of the letters fly out of the back of the farmer's pickup truck. What is the probability that the farmer lost all three S's?
- 4) Jong is stacking bricks to build a fireplace. A box contains 2 red bricks, 3 white bricks, and 5 gray bricks. Find $P(\text{white, then gray})$ if she selects two bricks from the box without replacement.
- 5) A wallet contains three \$20 bills, one \$10 bill, and two \$1 bills. Name two dependent events that will result in a probability of $\frac{1}{10}$.

6) A photo album contains some pictures of Nikki, some pictures of Luke, and some pictures of both Nikki and Luke. Nikki is in 25 of the pictures. Luke is in 30 of them. Nikki and Luke are together in 15 of the pictures.

a) How many pictures are in the photo album?

b) If a picture is selected at random, what is the probability that it shows both Nikki and Luke?

7) In the spinners below, what symbol should be placed in the empty section so that if you spin each spinner once, the probability of spinning 2 hearts is $\frac{1}{4}$. You may use only a heart, diamond spade or club to fill the space.



8) Brayden keeps his white and black chess pieces in separate bags. For each color, there are 8 pawns, 2 rooks, 2 bishops, 2 knights, 1 queen, and 1 king.

a) Are the events of drawing a knight from the bag of white pieces, not replacing it, then drawing a pawn from the bag of black pieces dependent or independent events? Find the probability of this happening.



b) Are the events of drawing a bishop from the bag of white pieces, not replacing it, then drawing the queen from the same bag dependent or independent events? Find the probability of this happening.

